

## IN THE CLAIMS

Please amend the claims to read as follows:

### Listing of Claims

1-14. (Cancelled)

15. (Withdrawn)      An apparatus used in a mobile router in a packet-switched data communication network wherein the mobile router establishes a bi-directional tunnel with a home agent through which packets sent to the mobile network behind the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packet sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to the appropriate destination, the apparatus comprising:

an Incoming Packet Processor that processes all incoming packets for standard networking protocol processing, and passing packets to different components once the types of the incoming packets are identified;

an Outgoing Packet Processor that performs all processing required before sending a packet out to physical media;

a Network Mobility Protocol Unit that is responsible for handling packets related to the protocol, including encapsulating packets to be forwarded through the bi-directional tunnel, sending binding update message packets, and receiving binding acknowledgement message packets; and

a Forwarding Unit that is responsible for the routing of packets to other nodes.

16. (Withdrawn) The apparatus according to claim 15, wherein the Network Mobility Protocol Unit further maintains the following memory store to hold the following data:

- (i) a counter to store the number of binding update messages the mobile router has sent to its home agent that does not contain any prefix information;
- (ii) a constant giving the maximum number of binding update messages that does not contain any prefix information to send;
- (iii) a default list of mobile network prefixes the mobile router should use in the event it fails to obtain the prefix delegated by its home agent; and
- (iv) the actual list of mobile network prefixes that the mobile router is using for the current bi-directional tunnel session.

17. (Withdrawn) A method for setting up a bi-directional tunnel from a mobile router which includes an apparatus used in a mobile router in a packet-switched data communication network wherein the mobile router establishes a bi-directional tunnel with a home agent through which packets sent to the mobile network behind the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packet sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to the appropriate destination, the apparatus comprising: an Incoming Packet Processor that processes all incoming packets for standard networking protocol processing, and passing packets to different components once the types of the incoming packets are identified; an Outgoing Packet

Processor that performs all processing required before sending a packet out to physical media; a Network Mobility Protocol Unit that is responsible for handling packets related to the protocol, including encapsulating packets to be forwarded through the bi-directional tunnel, sending binding update message packets, and receiving binding acknowledgement message packets; and a Forwarding Unit that is responsible for the routing of packets to other nodes, the method comprising the steps of:

- sending the home agent a binding update message that does not contain any prefix information with a small Lifetime value, if the number of binding update message sent without prefix information is less than a predetermined maximum;

- sending the home agent a binding update message that contains a default prefix information if the total number of binding update messages sent without prefix information is greater than or equal to a predetermined maximum;

- sending the home agent a binding update message that contains a default prefix information if the home agent rejects a previously sent binding update message that did not contain prefix information; and

- sending the home agent a binding update message that contains a prefix information the mobile router received from the home agent.

18. (New) An apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as a home agent for mobile routers so that a bi-directional tunnel is established between the home agent and one of the mobile routers through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional

tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to an appropriate destination, the apparatus comprising:

- an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and outputs the incoming packets once types of the incoming packets are identified;

- an Outgoing Packet Processor that performs processing before sending a packet to physical media;

- a Binding Manager that maintains bindings between home-addresses and care-of-addresses of registered mobile nodes, and handles data packets received by the Incoming Packet Processor that are identified to be related to the bindings of the registered mobile routers' addresses;

- a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor;

- a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and

- a Forwarding Unit that is responsible for the routing of packets to other nodes, wherein the Binding Manager temporarily accepts a first binding update from the mobile router that does not explicitly specify any mobile network prefix and does not have a default associated network prefix to wait for the mobile router to run a dynamic routing protocol by specifying a short Lifetime value in a binding acknowledgement, and rejects subsequent binding updates in a case that the mobile router fails to send prefix information using the dynamic

routing protocol after a pre-determined period of time elapses since the first binding update is accepted.

19. (New) The apparatus according to claim 18, wherein the Configuration Interface further provides a set of configuration parameters relating to the home agent and comprising:

- (i) information on whether the dynamic routing protocol is enabled for mobile routers that are away from home;
- (ii) a maximum lifetime of binding cache entries;
- (iii) a maximum lifetime of routing table entries;
- (iv) a lifetime of a binding cache entry to use when it is unknown whether the dynamic routing protocol will be run by an away mobile router; and
- (v) a maximum number of Binding Update messages to accept when it is unknown whether the dynamic routing protocol will be run by the away mobile router.

20. (New) The apparatus according to claim 18, wherein the Configuration Interface further provides a set of configuration parameters for each mobile router that is a legal user of the home agent, the configuration parameters comprising:

- (i) information on security associations of the mobile router;
- (ii) information on whether the mobile router is authorized to run dynamic routing protocols;
- (iii) a type of the dynamic routing protocols the mobile router is authorized to run;
- (iv) a set of default network prefixes that are associated to the mobile router;
- (v) a range of network prefixes that can be legally associated to the mobile router; and

(vi) a default action to be taken when prefix information contained in a binding update message is in conflict or inconsistent with the routing information sent by the mobile router.

21. (New) The apparatus according to claim 18, wherein the Binding Manager further maintains information about each registered mobile router, the information comprising:

- (i) a home-address of the mobile router;
  - (ii) a care-of-address of the mobile router;
  - (iii) information relating to whether a transmission mode of the last successful binding update message received from the mobile router corresponds to implicit mode or explicit mode;
  - (iv) an expiration time for the information about each registered mobile router;
  - (v) prefix information contained in the last successful binding update message received;
- and
- (vi) a number of binding update messages received from the mobile router when it is unknown whether the dynamic routing protocol will be run by the mobile router.

22. (New) An apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as a home agent for mobile routers so that a bi-directional tunnel is established between the home agent and one of the mobile routers through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to an appropriate destination, the apparatus comprising:

an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and outputs the incoming packets once types of the incoming packets are identified;

an Outgoing Packet Processor that performs processing before sending a packet to physical media;

a Binding Manager that maintains bindings between home-addresses and care-of-addresses of registered mobile nodes, and handles data packets received by the Incoming Packet Processor that are identified to be related to the bindings of the registered mobile routers' addresses;

a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor;

a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and

a Forwarding Unit that is responsible for the routing of packets to other nodes,

wherein the Binding Manager temporarily accepts a first binding update from the mobile router that explicitly specifies a single or plurality of mobile network prefixes to wait for the mobile router to run a dynamic routing protocol by specifying a short Lifetime value in a binding acknowledgement, and rejects subsequent binding updates in a case that any of the explicitly specified prefixes is in conflict with routes installed by the routing update messages sent from the mobile router running the dynamic routing protocol, or accepts the subsequent binding updates with normal Lifetime values in a case that the conflict is not detected after a pre-determined period of time elapses since the first binding update is accepted.

23. (New) The apparatus according to claim 22, wherein the Configuration Interface further provides a set of configuration parameters relating to the home agent and comprising:

- (i) information on whether the dynamic routing protocol is enabled for mobile routers that are away from home;
- (ii) a maximum lifetime of binding cache entries;
- (iii) a maximum lifetime of routing table entries;
- (iv) a lifetime of a binding cache entry to use when it is unknown whether the dynamic routing protocol will be run by an away mobile router; and
- (v) a maximum number of Binding Update messages to accept when it is unknown whether the dynamic routing protocol will be run by the away mobile router.

24. (New) The apparatus according to claim 22, wherein the Configuration Interface further provides a set of configuration parameters for each mobile router that is a legal user of the home agent, the configuration parameters comprising:

- (i) information on security associations of the mobile router;
- (ii) information on whether the mobile router is authorized to run dynamic routing protocols;
- (iii) a type of the dynamic routing protocols the mobile router is authorized to run;
- (iv) a set of default network prefixes that are associated to the mobile router;
- (v) a range of network prefixes that can be legally associated to the mobile router; and
- (vi) a default action to be taken when prefix information contained in a binding update message is in conflict or inconsistent with the routing information sent by the mobile router.

25. (New) The apparatus according to claim 22, wherein the Binding Manager further maintains information about each registered mobile router, the information comprising:

- (i) a home-address of the mobile router;
  - (ii) a care-of-address of the mobile router;
  - (iii) information relating to whether a transmission mode of the last successful binding update message received from the mobile router corresponds to implicit mode or explicit mode;
  - (iv) an expiration time for the information about each registered mobile router;
  - (v) prefix information contained in the last successful binding update message received;
- and
- (vi) a number of binding update messages received from the mobile router when it is unknown whether the dynamic routing protocol will be run by the mobile router.

26. (New) A method for processing a binding update message received by a mobile router's home agent which includes an apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as a home agent for mobile routers so that a bi-directional tunnel is established between the home agent and one of the mobile routers through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to an appropriate destination, the apparatus comprising: an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and passes the incoming packets to different components of the apparatus once types of the incoming packets

are identified; an Outgoing Packet Processor that performs processing before sending a packet out to physical media; a Binding Manager that maintains bindings between home- addresses and care-of-addresses of registered mobile nodes, and handles data packets received by the Incoming Packet Processor that are identified to be related to the bindings of the registered mobile routers' addresses; a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor; a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and a Forwarding Unit that is responsible for the routing of packets to other nodes, wherein the binding update message does not contain any mobile network prefix information, the method comprising the steps of:

- checking whether the mobile router is authorized to run a dynamic routing protocol;

- when the mobile router is not authorized to run the dynamic routing protocol and when there is no default network prefix associated with the mobile router, sending back a negative acknowledgement;

- when the mobile router is not authorized to run the dynamic routing protocol and when there is a single or plurality of default network prefixes associated with the mobile router, sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes to the default network prefixes in the Route Manager;

- when the mobile router is authorized to run the dynamic routing protocol and when the mobile router has already sent the routing update messages, consulting the Route Manager;

- when the mobile router is authorized to run the dynamic routing protocol and has sent the routing update messages to the home agent, sending back the positive acknowledgement and updating the binding information in the Binding Manager;

when the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent and when a number of binding update messages received from the mobile router is less than a pre-determined positive number, sending back the positive acknowledgement with a small Lifetime value and updating the binding information in the Binding Manager; and

when the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent and when the number of binding update messages received from the mobile router is greater than or equal to the pre-determined positive number, sending back the negative acknowledgement and removing the binding information in the Binding Manager.

27. (New) A method for error recovery when processing a binding update message received by a mobile router's home agent which includes an apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as the home agent for the mobile router so that a bi-directional tunnel is established between the home agent and the mobile router through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to an appropriate destination, the apparatus comprising: an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and passes the incoming packets to different components of the apparatus once types of the incoming packets are identified; an Outgoing Packet Processor that performs processing before

sending a packet out to physical media; a Binding Manager that maintains bindings between home-addresses and care-of-addresses of registered mobile nodes, and also handles data packets received by the Incoming Packet Processor that are identified to be related to the bindings of the registered mobile routers' addresses; a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor; a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and a Forwarding Unit that is responsible for the routing of packets to other nodes, wherein the binding update message contains information related to a single or plurality of mobile network prefixes that is in conflict with routes installed by a dynamic routing protocol run by the mobile router, the method comprising the steps of:

- checking configured error behavior in the configuration information for the mobile router;

- when the configured error behavior indicates to tear down the bi-directional tunnel, sending the mobile router a negative binding acknowledgment, removing binding information related to the mobile router in the Binding Manager and removing all routes installed by the mobile router from the Route Manager;

- when the configured error behavior indicates to silently ignore the prefix information specified in the binding update message, sending the mobile router a positive binding acknowledgment and updating the binding information related to the mobile router in the Binding Manager;

- when the configured error behavior indicates to ignore the prefix information specified in the binding update message with a warning, sending the mobile router the positive binding

acknowledgment with a special option indicating the prefix information is ignored and updating the binding information related to the mobile router in the Binding Manager;

when the configured error behavior indicates to silently ignore the routes installed using the dynamic routing protocol, sending the mobile router the positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router and installing routes in the Route Manager based on the prefix information specified in the binding update message; and

when the configured error behavior indicates to ignore the routes installed using the dynamic routing protocol with a warning, sending the mobile router the positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router, installing routes in the Route Manager based on the prefix information specified in the binding update message, and instructing the Route Manager to inform the mobile router of the changes in routes using the dynamic routing protocol.

28. (New) A method for processing a binding update message received by a mobile router's home agent which includes an apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as the home agent for the mobile router so that a bi-directional tunnel is established between the home agent and the mobile router through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further

routed to an appropriate destination, the apparatus comprising: an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and passes the incoming packets to different components of the apparatus once types of the incoming packets are identified; an Outgoing Packet Processor that performs processing before sending a packet out to physical media; a Binding Manager that maintains bindings between home-addresses and care-of-addresses of registered mobile nodes, and also handles data packets received by the Incoming Packet Processor that are identified to be related to the bindings of the registered mobile routers' addresses; a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor; a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and a Forwarding Unit that is responsible for the routing of packets to other nodes, wherein the binding update message contains information related to a single or plurality of mobile network prefixes, the method comprising the steps of:

- sending back a negative acknowledgement and removing the binding information in the Binding Manager when the prefix information specified in the binding update message is invalid;

- when the prefix information specified in the binding update message is valid and the mobile router is not authorized to run a dynamic routing protocol, sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes in the Route Manager based on the prefix information specified in the binding update message;

- when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol, and the mobile router has already sent the routing update messages, consulting the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent, and a number of binding update messages received from the mobile router is less than a pre-determined positive number, sending back a positive acknowledgement with a small Lifetime value, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent, and the number of binding update messages received from the mobile router is greater than or equal to the pre-determined positive number, sending back a positive acknowledgement with a normal Lifetime value, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router has sent the routing update messages to the home agent, and the prefix information specified in the binding update message is in conflict with the routes installed by the mobile router via the routing update messages, checking with the Route Manager;

sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager when the prefix information specified in the binding update message is valid and not in conflict with the routes installed by the mobile router via the routing update messages; and

performing, when the prefix information specified in the binding update message is valid but in conflict with the routes installed by the mobile router via the routing update messages, a second method comprising the steps of:

- checking configured error behavior in the configuration information for the mobile router;

- when the configured error behavior indicates to tear down the bi-directional tunnel, sending the mobile router a negative binding acknowledgment, removing binding information related to the mobile router in the Binding Manager and removing all routes installed by the mobile router from the Route Manager;

- when the configured error behavior indicates to silently ignore the prefix specified in the binding update message, sending the mobile router a positive binding acknowledgment and updating the binding information related to the mobile router in the Binding Manager;

- when the configured error behavior indicates to ignore the prefix specified in the binding update message with a warning, sending the mobile router the positive binding acknowledgment with a special option indicating the prefix is ignored and updating the binding information related to the mobile router in the Binding Manager;

- when the configured error behavior indicates to silently ignore the routes installed using the dynamic routing protocol, sending the mobile router the positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router and installing routes in the Route Manager based on the prefix information specified in the binding update message; and

when the configured error behavior indicates to ignore the routes installed using the dynamic routing protocol with a warning, sending the mobile router the positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router, installing routes in the Route Manager based on the prefix information specified in the binding update message, and instructing the Route Manager to inform the mobile router of the changes in routes using the dynamic routing protocol.

29. (New) A method for processing a binding update message received by a mobile router's home agent which includes an apparatus used in a communication node in a packet-switched data communication mobile network wherein the communication node serves as the home agent for the mobile router so that a bi-directional tunnel is established between the home agent and the mobile router through which packets sent to the mobile network via the mobile router are intercepted by the home agent and forwarded to the mobile router through the bi-directional tunnel, and packets sent by nodes from the mobile network are intercepted by the mobile router and forwarded to the home agent through the bi-directional tunnel to be further routed to an appropriate destination, the apparatus comprising: an Incoming Packet Processor that processes incoming packets for standard networking protocol processing, and passes the incoming packets to different components of the apparatus once types of the incoming packets are identified; an Outgoing Packet Processor that performs processing before sending a packet out to physical media; a Binding Manager that maintains bindings between home-addresses and care-of-addresses of registered mobile nodes, and also handles data packets received by the Incoming Packet Processor that are identified to be related to the binding of the registered mobile

routers' addresses; a Route Manager that maintains routing information and handles routing update messages that are received by the Incoming Packet Processor; a Configuration Interface that provides configuration information about the home agent and all its legal mobile router users; and a Forwarding Unit that is responsible for the routing of packets to other nodes, the method comprising the steps of:

- checking if the mobile router is an authorized user of the home agent and returning a negative binding acknowledgement if the mobile router is not an authorized user;

- when the mobile router is an authorized user of the home agent and a Lifetime field of a binding update message is zero, sending a positive binding acknowledgement to the mobile router, deleting binding information associated with the mobile router in the Binding Manager, and removing all routes installed by the mobile router in the Route Manager;

- when the mobile router is an authorized user of the home agent, the Lifetime field of the binding update message is non-zero, and the binding update message does not contain any network prefix information, processing the binding update message using a second method, the second method comprising the steps of:

  - checking if the mobile router is authorized to run a dynamic routing protocol;

  - when the mobile router is not authorized to run the dynamic routing protocol and there is no default network prefix associated with the mobile router, sending back a negative acknowledgement;

  - when the mobile router is not authorized to run the dynamic routing protocol and there is a single or plurality of default network prefixes associated with the mobile router, sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes to the default network prefixes in the Route Manager;

when the mobile router is authorized to run the dynamic routing protocol and the mobile router has already sent routing update messages, consulting the Route Manager;

when the mobile router is authorized to run the dynamic routing protocol and has sent the routing update messages to the home agent, sending back a positive acknowledgement and updating the binding information in the Binding Manager;

when the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent and a number of binding update messages received from the mobile router is less than a pre-determined positive number, sending back a positive acknowledgement with a small Lifetime value and updating the binding information in the Binding Manager; and

when the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent and the number of binding update messages received from the mobile router is greater than or equal to the pre-determined positive number, sending back a negative acknowledgement and removing the binding information in the Binding Manager; and

when the mobile router is an authorized user of the home agent, the Lifetime field of the binding update message is non-zero, and the binding update message contains information related to a single or plurality of network prefixes, processing the binding update message using a third method, the third method comprising the steps of:

sending back a negative acknowledgement and removing the binding information in the Binding Manager if the prefix information specified in the binding update message is invalid;

when the prefix information specified in the binding update message is valid and the mobile router is not authorized to run the dynamic routing protocol, sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes in the Route Manager based on the prefix information specified in the binding update message;

when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol, and the mobile router has already sent the routing update messages, consulting the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent, and the number of binding update messages received from the mobile router is less than the pre-determined positive number, sending back a positive acknowledgement with a small Lifetime value, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router is authorized to run the dynamic routing protocol but has not sent the routing update messages to the home agent, and the number of binding update messages received from the mobile router is greater than or equal to the pre-determined positive number, sending back a positive acknowledgement with normal Lifetime value, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager;

when the prefix information specified in the binding update message is valid, the mobile router has sent routing update messages to the home agent, and the prefix information specified in the binding update message is in conflict with the routes installed by the mobile router via the routing update messages, checking with the Route Manager;

sending back a positive acknowledgement, updating the binding information in the Binding Manager, and installing routes based on the prefix information specified in the binding update to the Route Manager when the prefix information specified in the binding update message is valid and not in conflict with the routes installed by the mobile router via the routing update messages; and

performing, when the prefix information specified in the binding update message is valid but in conflict with the routes installed by the mobile router via the routing update messages, a fourth method comprising the steps of:

checking configured error behavior in the configuration information for the mobile router;

when the configured error behavior is to tear down the bi-directional tunnel, sending the mobile router a negative binding acknowledgment, removing the binding information related to the mobile router in the Binding Manager and removing all routes installed by the mobile router from the Route Manager;

when the configured error behavior is to silently ignore the prefix specified in the binding update message, sending the mobile router a positive binding acknowledgment and updating the binding information related to the mobile router in the Binding Manager;

when the configured error behavior is to ignore the prefix specified in the binding update message with a warning, sending the mobile router a positive binding acknowledgment with a special option indicating the prefix is ignored and updating the binding information related to the mobile router in the Binding Manager;

when the configured error behavior is to silently ignore the routes installed using the dynamic routing protocol, sending the mobile router a positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router and installing routes in the Route Manager based on the prefix information specified in the binding update message; and

when the configured error behavior is to ignore the routes installed using the dynamic routing protocol with a warning, sending the mobile router a positive binding acknowledgment, updating the binding information related to the mobile router in the Binding Manager, removing all of the routes installed by the mobile router from the mobile router, installing routes in the Route Manager based on the prefix information specified in the binding update message, and instructing the Route Manager to inform the mobile router of the changes in routes using the dynamic routing protocol.